CLASS OF CYCLIC BASED ESTIMATORS FOR FREQUENCY OFFSET ESTIMATORS 13

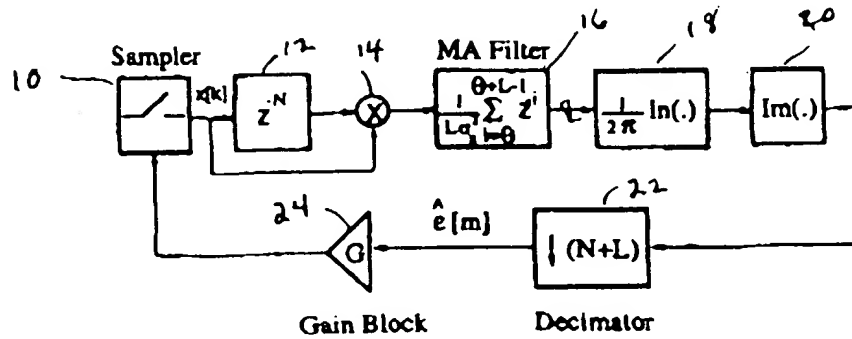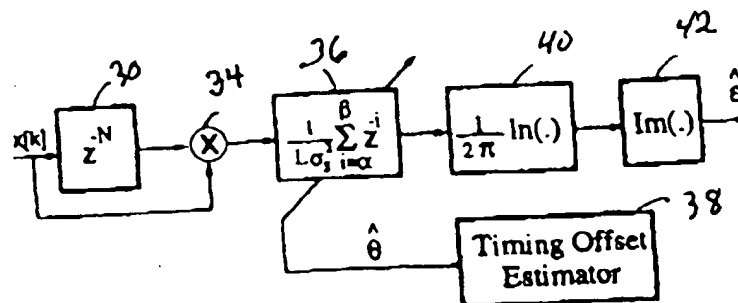FIG. 1 Closed Loop Offset Estimator

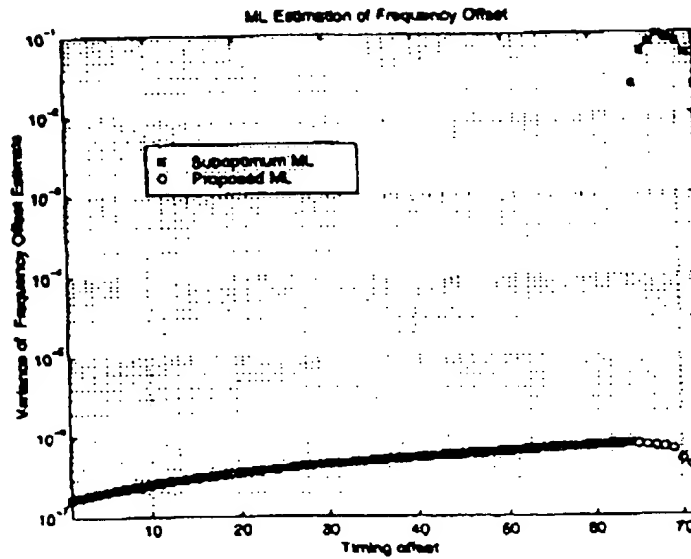CLASS OF CYCLIC BASED ESTIMATORS FOR FREQUENCY OFFSET ESTIMATORS 18

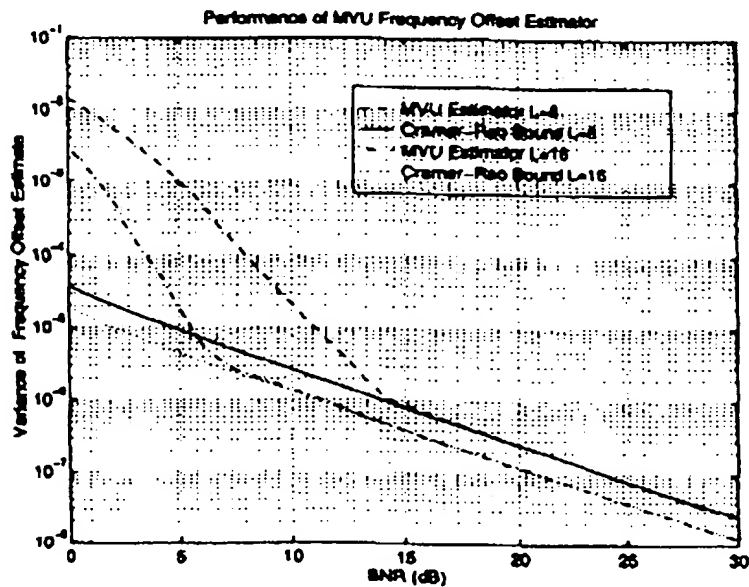| Estimator	α	β
ML	θ_{ML}	$\theta_{ML}+L-1$
MVU	θ	$\theta+L-1$
Moment	0	$N+L-1$

FIG. 2 Unified Structure for Class of Cyclic Bases Estimators

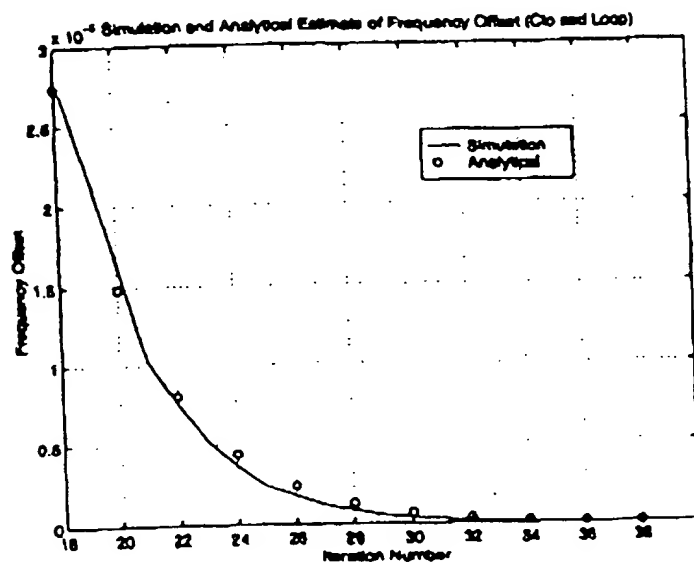CLASS OF CYCLIC BASED ESTIMATORS FOR FREQUENCY OFFSET ESTIMATORS 20

FIG. 3   Comparison Between Proposed and Suboptimum ML Frequency Offset Estimator

CLASS OF CYCLIC BASED ESTIMATORS FOR FREQUENCY OFFSET ESTIMATORS 21

FIG. 4   Performance of MVU Estimator as a Function of SNR

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FIG. 5   Closed Loop Performance of MVU estimator